

## **REMARKS**

### **Summary**

Claims 1-21 stand in this application. Claims 15-19 have been amended. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

Although Applicant disagrees with the broad grounds of rejection set forth in the Office Action, Applicant has amended claims 15-19 in order to facilitate prosecution on the merits.

### **Allowable Claims**

We would like to thank the Examiner for indicating the allowability of claims 4-5 if amended to include all of the limitations of the base claims and any intervening claims. Applicant respectfully submits, however, that these claims represent patentable subject matter as currently listed based on the amendments and remarks given for the independent claims as discussed in detail below. Applicant would like to respectfully reserve the right, however, to amend the allowable claims into independent form during further prosecution if warranted.

**Claim Rejections – 35 U.S.C. § 101**

Claims 15-19 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicants respectfully traverse this rejection. Applicant submits that claims 15-19 have been amended to include a computer readable storage medium containing instructions that are executed by a computer processor. Therefore, Applicant submits that claims 15-19 are directed to statutory subject matter and withdrawal of the § 101 rejection is respectfully requested.

**Claim Rejections - 35 U.S.C. § 102**

Claims 1-6, 8-11 and 15-18 stands rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,293,401 to Serfaty ("Serfaty"). Applicants respectfully traverse the rejection, and requests reconsideration and withdrawal of the anticipation rejection.

Applicant respectfully submits that to anticipate a claim under 35 U.S.C. § 102, the cited reference must teach every element of the claim. *See* MPEP § 2131, for example. Applicant submits that Serfaty fails to teach each and every element recited in claims 1-6, 8-11 and 15-18 and thus they define over Serfaty. For example, with respect to claim 1, Serfaty fails to teach, among other things, the following language:

receiving a first training sequence;  
estimating a maximum likelihood estimate of a  
channel impulse response using said first received training  
sequence;  
receiving a second training sequence; and  
estimating at least one channel impulse response  
estimate using said maximum likelihood estimate and said  
second received training sequence.

According to the Office Action, this language is disclosed by Serfaty at figure 3 and column 1, lines 50-62. Applicant respectfully disagrees.

Applicant respectfully submits that claim 1 defines over Serfaty. Serfaty at the given cite, in relevant part, states:

According to one aspect of the invention, an equalizer is provided for equalising a linear modulated signal, containing periodic predetermined sequences for training, received over a radio channel, comprising: means for receiving a first training sequence and estimating the impulse response of the channel during receipt of the first training sequence; means for receiving and storing samples following said training sequence; means for receiving a second training sequence following said samples and estimating the impulse response of the channel during receipt of the second training sequence; means for interpolating between the estimated impulse responses and setting coefficients of the equalizer depending on interpolation of the estimated impulse responses; and means for reading the stored received samples from memory and equalising them in the equaliser using the coefficients so set, thereby to compensate for Rayleigh fading and multipath spread on the channel.

Applicant respectfully submits that this is different than the above recited language of independent claim 1.

Applicant respectfully submits that Serfaty, arguably, teaches an equalizer for a linear modulated signal. More particularly, the cited portions of Serfaty teach estimating the impulse response of a channel during first and second training sequences respectively. Applicant submits, however, that he has been unable to locate any teaching in Serfaty directed to estimating a maximum likelihood estimate in response to the first received training sequence and using the maximum likelihood estimate to estimate the channel response after receiving the second training sequence as required by claim 1.

Consequently, Serfaty fails to disclose all the elements or features of the claimed subject matter. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 1. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 2-6, which depend from claim 1 and, therefore, contain additional features that further distinguish these claims from Serfaty.

Claims 8 and 15 recite features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claims 8 and 15 are not anticipated and are patentable over Serfaty for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claims 8 and 15. Furthermore, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 9-11 and 16-18 that depend from claims 8 and 15 respectively, and therefore contain additional features that further distinguish these claims from Serfaty.

**Claim Rejections - 35 U.S.C. § 103**

Claims 7, 12, 14 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Serfaty in view of United States Patent Publication No. 2003/0185310 to Ketchum ("Ketchum"). Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Serfaty in view of Ketchum and further in view of United States Patent No. 6,798,015 to Erickson ("Erickson"). Claims 20-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Serfaty in view of United States Patent Publication No.

2006/0114981 to Ghosh ("Ghosh"). Applicants respectfully traverse the rejections, and requests reconsideration and withdrawal of the obviousness rejections.

As recited above, Applicant submits that Serfaty fails to disclose each and every element recited in independent claims 1, 8 and 15. Furthermore, Applicant submits that Ketchum, Erickson and Ghosh fail to remedy the above identified deficiencies of Serfaty. Moreover, Applicant submits that claims 7, 12-14 and 19-21 depend from claims 1, 8 and 15 respectively and therefore contain additional features that further distinguish these claims from the cited references. Consequently, Applicant respectfully requests withdrawal of the obviousness rejections with respect to these dependent claims.

**Conclusion**

It is believed that claims 1-21 are in condition for allowance. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

Applicants do not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the limitations of the independent claims and dependent claims discussed above. Accordingly, Applicants hereby reserve the right to make additional arguments as may be necessary to further distinguish the claims from the cited references, taken alone or in combination, based on additional features contained in the independent or dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

The Examiner is invited to contact the undersigned to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to deposit account 50-4238.

Respectfully submitted,  
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John F. Kacvinsky, Reg. No. 40,040  
Under 37 CFR 1.34(a)

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